Rules of the Game
All About Movement (Part Four)
By Skip Williams

In Part Three, we looked at climb speeds and swim speeds; however, the **D&D** game also includes burrow and fly speeds.

Flight and Other Speeds

Burrow

In most cases, burrowing movement allows a creature to tunnel through fairly loose material such as dirt or snow. Some creatures, however, can burrow through stone or other solid materials. The kinds of material the creature can penetrate while burrowing is noted in its description. In most cases, a burrowing creature does not leave behind a tunnel that other creatures can use or that it can use for travel via another mode of movement.

Burrowing movement takes place in three dimensions. A burrowing creature can tunnel up, down, left, or right as easily as a human can change direction while walking on smooth ground.

A creature cannot charge or run while burrowing.

Flight

Basic flight consists of turning, level flight, climbing, diving, and (usually) maintaining a minimum forward speed. A flying creature's maneuverability rating determines how well it can perform these basic functions, as shown on Table 2-1 in the *Dungeon Master's Guide.* Because a flying creature's ability to change direction is limited, and because flight takes place in three dimensions, you must know a creature's maneuverability rating, forward speed, direction of travel, and altitude to handle flaying correctly.

Maneuverability ratings are described on page 312 in the *Monster Manual.* Table 2-1 in the *Dungeon Master's Guide* and the text that accompanies it defines what the various maneuverability ratings allow creatures to do in the air. Additional notes follow (using a harpy as an example):

Forward Speed: Forward speed is the number of squares a flying creature traverses during the course of its movement for the round. Some flight maneuvers (such as turning in place) use up flying movement but don't contribute to forward speed. Many flyers must maintain a minimum forward speed each round. If they fail to do so, they stall (see Minimum Forward Speed).

Direction of Travel: Though the **D&D** game doesn't require you to keep track of which direction creatures face, flying movement usually restricts their ability to turn and that does require you to keep track of facing. For purposes of flying movement, a creature always faces the same direction as its movement. When a

creature ends its flying movement for the turn, place a mark or a marker on the grid so you know which direction in which it would travel. When it is time for the creature to move again, it resumes moving in that direction.

The creature's direction of travel in no way limits where it can make melee or ranged attacks. A flying creature (if armed) threatens the spaces around it not matter what its maneuverability or which direction it flies.

Altitude: This is simply how high above the ground a flying creature happens to be. If keeping track of flyers' altitudes relative to the ground proves inconvenient, choose some other reference point, but make sure that all creatures in an aerial encounter use the same reference point to measure altitude.

Altitude is measured from the ground (or other reference point) to the bottom of a flying creature's space (see Creatures inAerial Combat in Part Five). The top of a creature's space usually sticks up above its altitude and the creature usually can reach up farther than that. If an aerial encounter contains creatures bigger than Medium size, it can prove helpful to indicate how high up each creature extends.

Because maps and battle grids usually are two-dimensional, you must write down each flying creature's altitude at the end of its movement. It's usually best to record altitude directly on the grid.

Several flying creatures can occupy the same square on your grid it they're at different altitudes.

Minimum Forward Speed: If a flying creature fails to maintain its minimum forward speed, it must land at the end of its movement. If it is too high above the ground to land, it stalls.

A creature in a stall falls straight down, descending 150 feet in the first round of falling. If this distance brings it to the ground, it takes falling damage. If the fall doesn't bring the creature to the ground, it must spend its next turn recovering from the stall. It must succeed on a DC 20 Reflex save to recover. Otherwise it falls another 300 feet. If it hits the ground, it takes falling damage. Otherwise, it has another chance to recover on its next turn.

Keep track of minimum forward speed by the turn, not by the move. For example, a harpy has a fly speed of 80 and average maneuverability. The harpy has a minimum forward speed of 40 feet; a harpy that moves 20 feet ahead as a move action doesn't stall if it uses another move action the same turn to move another 20 feet ahead.

As noted earlier, only moving from square to square counts toward minimum forward speed. Movement spent turning in place doesn't count.

In some cases, a creature may spend part of its turn on the ground (or perhaps on a flying mount or flying device). If the creature uses a move or standard action on the ground, it need maintain only half its minimum forward speed once it takes to the air. If a flying creature moves along the ground and then takes to the air as part of the same move action, it must maintain all of its minimum forward speed to avoid stalling.

Hover: Hover is the ability to stay in one place while airborne. As shown in the *Dungeon Master's Guide,* creatures with perfect or good maneuverability always have this ability. Less maneuverable creatures also

might gain this ability via the Hover feat from the *Monster Manual*.

A creature with perfect maneuverability can hover as a free action and remain airborne.

A creature with good maneuverability also can hover as free action. It can instead hover as a move action and, as part of that move action, can move at half speed in any direction it likes (including straight up, straight down, or backward). Before or after it moves, the hovering creature can turn to face any direction it likes. When it stops hovering, it can resume ordinary flight in any direction in which it could normally fly.

A creature with less than good maneuverability, such as a harpy, that gains the ability to hover from the Hover feat, must use a move action to switch from normal flight to hovering. It can then use another move action (if it has one available during the current turn), to move at half speed in any direction it likes (including straight up, straight down, or backward). Before or after it does this hovering movement, the creature can turn to face any direction it likes. When it stops hovering, the creature can resume ordinary flight in any direction in which it could normally fly.

If a creature begins its turn hovering, it can hover in place for the turn (no matter what its maneuverability) and take a full-round action. A hovering creature cannot make wing attacks, but it can attack with all other limbs and appendages it could use in a full attack. The creature can instead use a breath weapon or cast a spell instead of making physical attacks, if it could normally do so.

Move Backward: This is the ability to move backward without turning around.

Reverse:A creature with good maneuverability can use up 5 feet of its speed to start flying backward.

Turn: How much the creature can turn after covering the stated distance. For example, a harpy has average maneuverability, so it can turn left or right 45° for each 5 feet it moves forward. The creature moves into a square, then turns. To fly in a complete circle, a harpy would have to travel eight squares.

Turn in Place:A creature with good or average maneuverability can use some of its speed to turn in place. (This represents the creature slowing down and banking hard to make a tight turn.) The extra movement spent turning does not count toward minimum forward speed; a creature that turns too sharply at low speeds stalls.

A harpy has average maneuverability, so it can turn an extra 45° in one square by spending 5 feet of movement.

Maximum Turn: This is how much the creature can turn in any one space. No matter how much movement the creature spends on turning, it can't change direction more than this in a single square.

A harpy has average maneuverability, so it can turn a maximum of 90° in one square. To do so, the harpy moves into the square and turns 45°, then it spends 5 feet of movement and turns an extra 45° without moving forward. A harpy can fly in a complete circle by moving only four squares, but doing so still would cost the harpy 40 feet of movement (20 feet for the squares moved and 20 feet for the extra turning). If the harpy does so, it doesn't satisfy its minimum forward speed (40 feet), even though it has expended 40 feet of movement. The harpy must fly forward another 20 feet to avoid stalling. The harpy could to that by flying in another tight circle.

Up Angle: The up angle is the maximum angle at which the creature can climb through the air. A creature with an up angle of 60⁰ must move ahead at least 5 feet for every 10 feet it climbs. A creature with an up angle of 45⁰ must move ahead at least 5 feet for every 5 feet it climbs. A harpy has average maneuverability, so its up angle is 60⁰.

Up Speed: Up speed is how fast the creature can move while gaining at least 10 feet of altitude; this represents the energy the flyer loses when climbing. The creature cannot expend more movement than its up speed allows, even if that movement is not forward movement.

If the creature climbs and dives in the same turn, any bonus movement it gains from the dive is not limited by the creature's up speed.

For example, a harpy has average maneuverability, so its up speed is half, or 40 feet. Its minimum forward speed also is 40 feet, so it risks stalling if it expends extra movement to turn when climbing unless it can make a double move.

Down Angle: The down angle is the maximum angle at which the creature can dive through the air. A creature with a down angle of 45⁰ must move ahead at least 5 feet for every 5 feet it climbs. A harpy has average maneuverability, so it can dive at any angle.

Down Speed: Any flying creature can fly down at twice its normal flying speed. An easy way to track diving movement is to allow it 5 feet of bonus movement for every 5 feet it descends, to a maximum of twice its normal flying speed. The creature can use the extra movement for any kind flying movement it normally could perform, except for hovering.

Downward movement in a stall or freefall does not increase a creature's speed. Instead, the creature falls straight down at a fixed rate.

Between Down and Up: An average, poor, or clumsy flier must fly level for a minimum distance after descending and before climbing (but it can turn). Any flier can begin descending after a climb without an intervening distance of level flight.

A harpy has average maneuverability, so after a dive it must fly level for at least 5 feet before gaining any altitude.

What's Next?

You've learned some flight basics. Now build upon that knowledge with some more advanced flight topics.

About the Author

Skip Williams keeps busy with freelance projects for several different game companies and has been the Sage of **Dragon** *Magazine* since 1986. Skip is a co-designer of the **D&D** 3rd Edition game and the chief architect of the *Monster Manual*. When not devising swift and cruel deaths for player characters, Skip putters in his kitchen or garden (his borscht gets rave reviews).

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